

**ARCHAEOLOGICAL RESOURCES
PREDICTIVE MODEL**

PLUM ISLAND ANIMAL DISEASE CENTER
PLUM ISLAND, NEW YORK

Prepared for:

U.S. General Services Administration
10 Causeway Street, 9th Floor
Boston, MA 02222

Prepared by:

AMEC Environment & Infrastructure, Inc.
511 Congress Street
Portland, Maine 04101

AMEC Project Number: 3612102144

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LIST OF ACRONYMS

GSA	U. S. General Services Administration
AMEC	AMEC Environment & Infrastructure, Inc.
PIADC	Plum Island Animal Disease Center

1.0 INTRODUCTION

AMEC Environment & Infrastructure, Inc. (AMEC) has prepared this Archaeological Resources Predictive Model associated with the Plum Island Animal Disease Center (PIADC) for the U.S. General Services Administration (GSA). The purpose of the predictive model is to attempt to determine the areas on the island most likely to contain archaeological resources that meet the criteria for listing on the National Register of Historic Places. The results of the model will supplement evaluation of the affected environment to be presented in the Environmental Impact Statement relative to the public sale of Plum Island.

Traditional predictive models for archaeological resources include three probability areas. Those are defined as “high”, “medium”, and “low” probability areas. It is extremely difficult to quantify the difference between “high” and “medium” probability areas in most cases, and is probably impossible without conducting on-the-ground survey to establish and test sorting criteria. “Low” probability areas are somewhat easier to establish based on background research and criteria that are generally accepted within the field of archaeology.

This model attempts to define two probability areas to predict the distribution of archaeological resources on Plum Island. The two areas are “high” and “low” categories. This means that the Plum Island predictive model is set at the highest level of clarity possible using available information.

The Plum Island predictive model was developed based on the results of background research conducted on the Internet, at the Suffolk County Historical Society, the Town, the New York Historical Society, and among historical records and maps housed at Plum Island. Plum Island was visited on August 3 and 4, 2010, by the Principal Investigator, who conducted a visual inspection of areas believed to be of both high and low probability for the occurrence of archaeological resources.

Three separate predictive sub-models were developed to deal with archaeological resources that are expected to be present on Plum Island. The first sub-model involves prehistoric resources, and was constructed based on logical factors that dictate or constrain prehistoric settlement in the area. The second sub-model includes historic settlement on the island prior to the establishment of Fort Terry. The second sub-model is based on available historical information that includes historic maps. The second sub-model is weakest for the period of initial settlement in the seventeenth century and strongest for nineteenth century utilization of the island. The third predictive sub-model addresses Fort Terry and is based primarily on maps produced during actual surveys of the island.

The three Plum Island sub-models overlap in some areas, but differ significantly in others. It is expected that survey of the combined sub-models would provide coverage of all defined high probability areas, as well as an adequate sample of low probability areas from one resource type to another. The three sub-models have been combined in this study to produce a single figure that shows high and low probability areas. That figure, and the assumptions used to create it, can be used to guide future archaeological survey on the island.

2.0 PREHISTORIC RESOURCES

No prehistoric resources have been identified on Plum Island to date, and only 24 acres of the island have been surveyed. Numerous prehistoric archaeological sites are known to be present on the rest of Long Island (see Suffolk County Archaeological Association, 1979 and Truex, 1982 for examples), and it could be assumed that such resources are also present on Plum Island.

A search of historical resources on Plum Island has revealed a single newspaper article that deals with prehistoric remains on the island. That article, published in the *Long Islander* on July 11, 1879, (Anon, 1879) described the discovery of what was almost certainly a mammoth skeleton on the west end of the island. The find was made beneath what had been a 50 foot high sand dune that had extended 150 feet long in an area known as “Brother’s Beach” near the existing light station. The dune was eroded away by wind action to reveal bone that included a skull and over seven feet of backbone. At least one leg of the skeleton was also present. The skull was described as “like that of an elephant,” which means it was likely the skull of a mammoth. The bones were removed to the light station, but they were noted to be in very poor condition. It is important to note that no associated human tools were mentioned in the newspaper article, indicating that the find may not have been an archaeological site.

The discovery of the skeleton on the west end of the island is significant, as it means that the landscape of Plum Island had stabilized to at least some degree by the end of the last Ice Age. That indicates that the island could contain prehistoric remains that range in age from Paleoindian to the time of European contact.

Potential prehistoric remains on Plum Island are most likely concentrated along the north edge of the island proximate to Long Island Sound, along the west edge of the island adjacent to Plum Gut, and within two hundred meters of fresh water sources elsewhere on the island. The northern edge of the island, inland for approximately 200 meters, is more likely to contain prehistoric remains than the southern margins, as it is expected that the Sound would have been a much richer and more varied source of food than the Atlantic. It is also more sheltered, and a better place for longer-term settlement. The same factors that make the northern edge of the island more attractive than the southern edge worked to favor the western over the eastern end of the island. Availability of potable water is a powerful factor dictating settlement and land use in a maritime environment such as Plum Island, and the areas of greatest prehistoric use were probably those areas with easy access to potable surface water and to the northern and/or western shores.

The prehistoric model can be further refined by excluding that portion of the southwestern end of the island that has been defined as floodplain (Figure 1) on a 2009 aerial photograph of Plum Island prepared by GSA and titled “Floodplain Areas” (GSA, 2009). This is a relatively large portion of the island, and includes the area around existing Building 257. The limited reconnaissance conducted on the island indicated that the terrain is low and relatively featureless in that area, and is composed of poorly consolidated sand. It is more likely that

prehistoric settlement concentrated on the higher, flatter areas to the east and north of the floodplain.



**Figure 1. View of the Floodplain Area near Building 257, Looking Southwest
(see Figure 2 for area shown in photograph).**

A factor that can be used to limit inclusion of areas along the north shore is the nature of the terrain in that area. It is unlikely that settlement would have taken place in areas of steep terrain, and such areas can be excluded from high probability areas.

A factor that cannot be measured in a coarse-grained model such as the one proposed is the presence of small, fresh water springs that may have come and gone since prehistoric times. Even small springs with potable water could have drawn settlement, and there is no good way to account for those features in a model of this type.

Tracts of land that can be shown to have been heavily disturbed can be excluded from the high probability areas for prehistoric resources. This includes areas of road, underground utilities, solid waste landfills, and the like. Wetlands can also be excluded from the high probability areas.

Figure 2 shows the high probability areas for prehistoric resources on Plum Island that exclude wet areas, disturbed areas, and areas with slopes of greater than 15%. These areas should be surveyed following New York State guidelines (New York Archaeological Council, 1996) to identify and delineate the prehistoric resources that are present.

The 24-acre that has been surveyed falls outside of the prehistoric high probability areas (see Figure 2). No prehistoric resources were identified during that survey, and none should be expected to be present in that area.

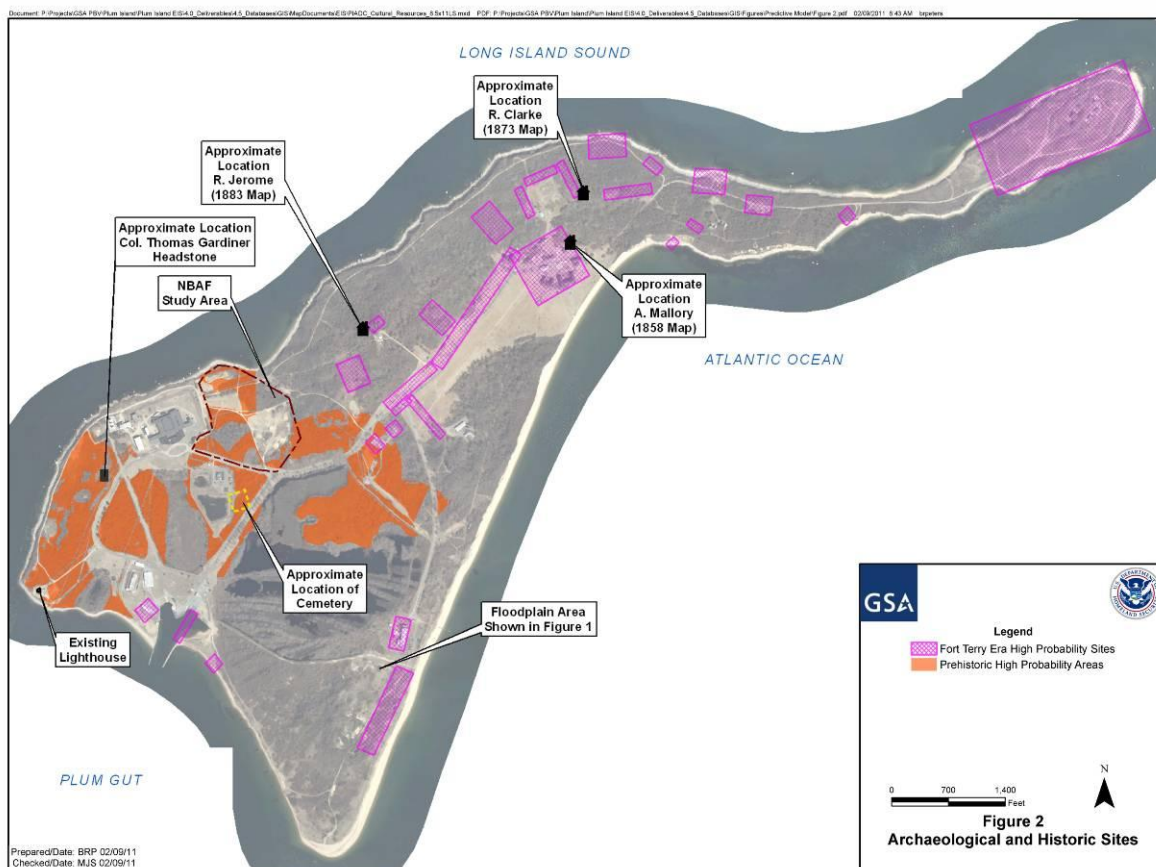


Figure 2. High Probability Areas on Plum Island.

3.0 HISTORIC RESOURCES

3.1 Historic Resources Prior to Fort Terry

A summary chain-of-title for Plum Island is filed with the Southold Historical Society in an anonymous and undated typescript file titled “Plum Island.” That chain-of-title is summarized below with information gained from Town Records Copied and Explanatory Notes Added by J. Wickham Case, which was published in 1884.

Plum Island was initially purchased by Samuel Wyllys of Hartford, Connecticut, from Wyandanch of the Montauk Indian tribe on April 27, 1659 for “a coat, a barrel of biscuits and 100 muxes (iron drills used to make wampum beads from shells), and fish hooks.” Wyllys in turn sold the property to Joseph Dudley of Roxbury, Massachusetts, in 1686 for £250.

Dudley sold the western half of the island to Joseph Beebe and the eastern half to Isaac Schellinx (or Schellinger). The dates of those sales and the division of the island are not known, but the sales and division took place before 1717. It is known that two houses were present on the island in 1717, as there is a reference (Case, 1884) to those houses being buried under a snowfall in February 1717. This places the earliest Euro-American residence on Plum Island to at least 1717.

The eastern half of Plum Island was sold to Daniel Tuthill by Isaac Schellinx in 1722. That eastern part of the eastern half of the island remained in the Tuthill family until 1819, when part of it was sold to Benjamin Gardiner. The western part of the east half had previously been sold to John Gardiner at an unknown date. John Gardiner sold the western part of the eastern half to Richard Jerome in 1805. The ownership for the eastern portion of the eastern half is unclear until the late nineteenth century. Edward P. Bedell owned most of Plum Island by 1883, and by 1890 Abram S. Hewett owned the entire island less the three acres owned by the U.S. Government for the light station.

The western half of the island remained in the Beebe family until 1834, when the Beebe family holdings were consolidated under the ownership of Richard Jerome. Jerome had owned portions of the western half as early as 1826, when he sold three acres to the U.S. Government to build a light station. Richard Jerome owned the western half of the island and the western portion of the eastern half until his death in 1869. His estate passed to his wife and children after his death, and his son Richard Jerome sold the property to Edward Bedell in 1883. The U.S. Government purchased 130 acres on Plum Island from Abram Hewett to establish Fort Terry in 1897, and purchased the rest of the island from him in 1901.

Plum Island was the focus of at least one British raid during the Revolutionary War. Rufus Tuthill was attacked by a British raiding party on August 7, 1774, at which time his boat and 20 sheep were stolen. The U.S. Congress subsequently recommended the removal of sheep and cattle from Plum and Gardiner’s Island to prevent their loss to the British. A newspaper article in *Newsday*, dated December 15, 2004, indicates that a skirmish took place on Plum Island at Plum Gut on August 11, 1775, between 120 American soldiers under the command of General

David Wooster and a British force that had landed on the island by ship (Newsday, 2004). The American soldiers had crossed Plum Gut by whaleboat, but were forced to retreat to avoid being cut off by British warships.

Few clues are available concerning the locations and numbers of residences on the island until the nineteenth century. As previously mentioned, there were at least two residences on the island by 1717, with one on the eastern and the other on the western half. The eastern half was divided into two sections at some point in the eighteenth century, and it is likely there was at least one residence on each of those, as well as a residence on the western half. This means that there were likely three residences on the island through the balance of the eighteenth century. Historian B.F. Thompson wrote that there were 75 people on Plum Island in 1843, and that three families lived there (Thompson, 1962). The estimate of 75 residents seems very high, particularly in light of later census data available for the island.

It is not possible to tell who resided on Plum Island during 1840, because the raw census data (U.S. Government, 1840) are not arranged in a way that they can be interpreted to yield that information. It is known that Richard Jerome lived there in that year, and he is listed on the census as the head of household with 1 male 50-60 years old (Richard), one female 40-50 years old (presumably his wife), one female 10-15 years old, 1 male 15-20 years old, one female 15-20 years old, and 1 male free person of color 35-55 years old.

The households listed on the 1850 census that can be linked to Plum Island are summarized in Table 1 (U.S. Government, 1850). The heads of household are Lineus Conklin, Richard Jerome, and John Askew. The Conklin family likely resided at the light station, while the Jerome and Askew families likely lived on and farmed the western and eastern portions of the island. It is unclear what role that Alonzo Hunter played in the Conklin family, but Jerome employed at least two laborers, while Askew employed a single laborer. One of the laborers employed by Jerome may have been married, and it is likely that both laborers resided outside the Jerome home. The single laborer on the Askew farm may have also had a separate residence.

Table 1. Residents of Plum Island Listed in the 1850 Census.

Name	Age	Sex	Occupation	Value of Real Estate	Where Born	Attend School?
Lineus Conklin	53	M	Light Station Keeper	\$3,000	NY	
Nancy Conklin	52	F			NY	
Alonzo Hunter	20	M	Seaman		CT	
Nancy Conklin	23	F			NY	
Richard Jerome	72	M	Farmer	\$20,000	NY	
Mary Jerome	64	F			NY	
Richard Jerome	30	M	Farmer		NY	
Fanny Jerome	28	F			NY	
Patrick Diviny	26	M	Laborer		Ireland	

Name	Age	Sex	Occupation	Value of Real Estate	Where Born	Attend School?
Patrick Greely	24	M	Laborer		Ireland	
Cathy Greely	19	F			Ireland	
George W. Pry	13	M			CT	
John Askew	54	M	Farmer	\$2,000	England	
Amanda Askew	50	F			CT	
Hannah Askew	17	F			NY	Yes
Amanda Askew	13	F			NY	Yes
Patrick Askew	20	M	Laborer		Ireland	

A map of Plum Island dated 1858 (Figure 3) shows two houses on the island in addition to the light station. One house is indicated as “R. Jerome” and the other as “A. Mallory”, and the residences are situated on the western and eastern portions of the island.

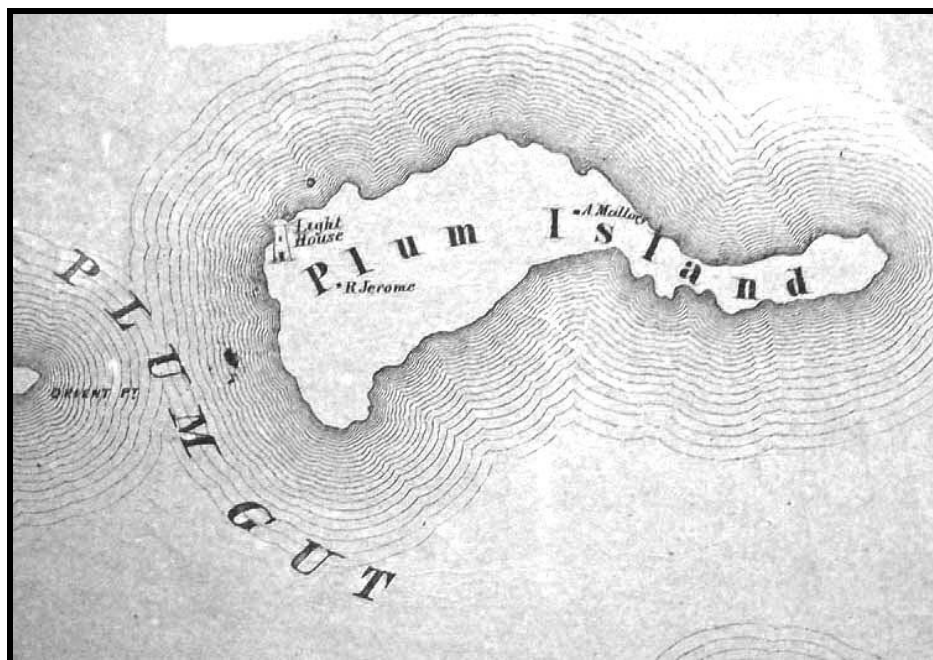


Figure 3. A Portion of Long Island New York from Actual Surveys, 1858 (Chace, 1858).

The 1860 census provides information on the Jerome and Mallory households shown on the 1858 map (U.S. Government, 1860). No information was included on the light station keeper in that census. The Jerome household grew to 12 individuals in 1860, from eight in 1850. The Mallory household was the same size as the Askew household had been in 1850. The households listed on the 1860 Plum Island census are summarized in Table 2.

Table 2. Residents of Plum Island Listed in the 1860 Census.

Name	Age	Sex	Occupation	Value of Real Estate	Personal Property	Where Born	Attend School?
Richard Jerome	81	M	Farmer	\$8,000	\$3,000	CT	
Mary Jerome	74	F				NY	
Richard Jerome	40		Farmer			NY	
Fanny Jerome	30	F				NY	
Benjamin Jerome	8	M				NY	Yes
Ada Jerome	6	F				NY	
Abby Jerome	1	F				NY	
John Farrell	25	M	Farm Laborer			Ireland	
Hannah Cullen	41	F	Servant			Ireland	
Mark Cullen	6	M				NY	
Fanny Jerome	38	F				NY	
Mary Jerome	50	F				NY	
Alvin Mallory	60	M	Farmer	\$1,500	\$600	CT	
Esther Mallory	52	F				CT	
David Mallory	19	M	Farm Laborer			CT	
Robert Clark	41	M	Farm Laborer			CT	

Portions of the 1870 census (U.S. Government, 1870) are difficult to interpret. In other census documents, the Plum Island households are listed in sequence from west to east. In the 1870 document the light station keeper and his wife and servant are listed, followed by the Parsons household, and then the Jerome household. That would place the Parsons family out of order on the island traveling from west to east, but it is still likely they resided on Plum Island and occupied the eastern farmstead. Table 3 lists those individuals attributable to Plum Island in the 1870 census.

Table 3. Residents of Plum Island on the 1870 Census.

Name	Age	Sex	Occupation	Value of Real Estate	Value of Personal Property	Where Born
William Wetmore	66	M	Light station Keeper	\$800	\$200	NY
Eleanor Wetmore	59	F	Keeping House			NY
Hannah Dussenburg	28	F	Domestic Servant			NY
Thomas Parsons	62	M				NY
Elizabeth Parsons	57	F	Keeping House	\$1,500		NY
Merry Parsons	28	M	Hotel Keeper		\$6,000	NY

Name	Age	Sex	Occupation	Value of Real Estate	Value of Personal Property	Where Born
Aura Parsons	18	F				NY
John Hannibal	63	M	Farm Labor			NY
May Burns	21	F	Domestic Servant			Ireland
Richard Jerome	49	M	Farmer	\$15,000		NY
Fanny Jerome	48	F				NY
Benjamin Jerome	18	M	Farm Labor			CT
Ida Jerome	16	F				CT
Abbie Jerome	11	F				CT
Fanny Jerome	40	F	Keeping House			CT
Ellsworth Jerome	8	M				CT
Mary Jerome	84	F		\$600		NY
Ezra Chaplain	32	M	Farm Labor			CT
William Leonard	35	M	Farm Labor			CT
Lucretia Chaplain	25	F				CT
Robert Clark	34	M	Fisherman			CT
Susan Clark	20	F	Keeping House			CT

An 1873 map (Figure 4) placed the Jerome house in a different place than the 1858 map. The residence that had been used by Mallory appears to be gone, replaced to the east by a residence designated as “R. Clark” (Robert Clark). The Richard Jerome residence is marked “R Jerome Est.” and that property was apparently in the hands of the heirs of the elder Richard Jerome at that time. The light station is shown in the same location as in 1858.

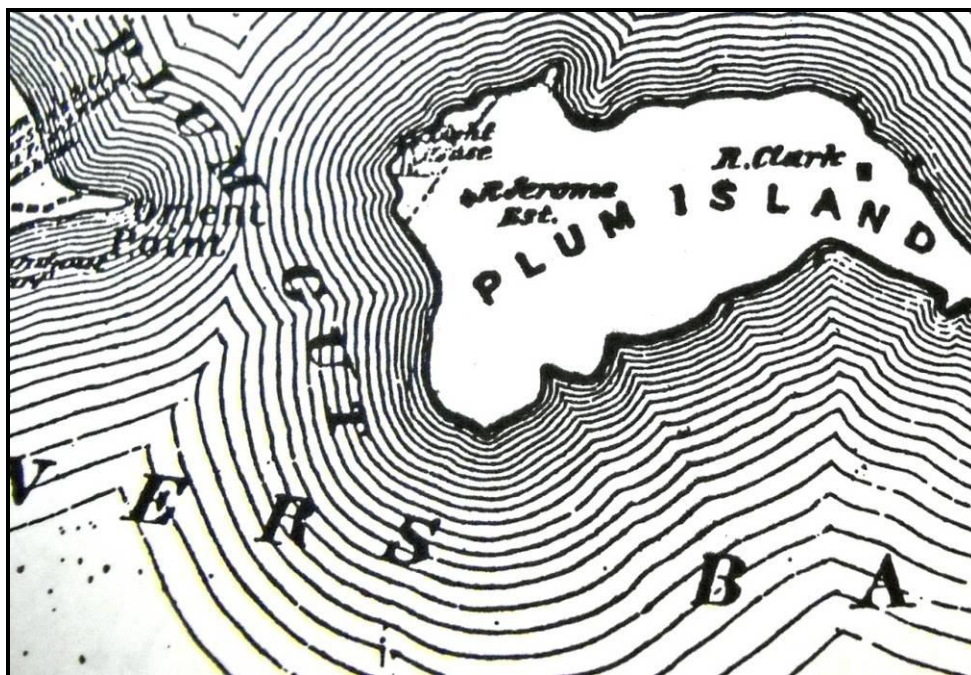


Figure 4. A Portion of *Beers Atlas of Long Island*, 1873 (Beers, 1873).

The 1880 census (U.S. Government, 1880a) was the final enumeration taken before the majority of the island was purchased by Edward Bedell. Table 4 lists the families and individuals who lived there in 1880 as enumerated by the census.

Table 4. Residents of Plum Island Listed on the 1880 Census.

Name	Age	Sex	Occupation	Marital Status	Where Born
Richard M. Jerome	59	M	Farmer	Married	NY
Kerlett Harding	21	M	Farm Laborer	Single	IN
John German	25	M	Farm Laborer	Single	Germany
Louisa Morgan	42	F	House Keeper	Widow	CT
Robert E. Clark	44	M	Farmer	Married	CT
Susan Clark	29	F	House Keeper	Married	CT
Robert E. Clark, Jr.	8	M	Son at Home		
Mary J. Clark	7	F	Daughter at Home		
William W.R. Clark	5	M	Son		
Wm Robinson	61	M	Boarding	Single	CT
Wm A. Rockwell	32	M	Farm Laborer	Single	CT
Richard Guy	14	M	Farm Laborer		CT
Wm W. Wetmore	73	M	Keeping Light station		NY
Wm W. Wetmore, Jr.	41	M	Assist Light station		NY
Mary King	24	F	House Keeper		NY

There are a number of discrepancies between census documents. The 1850 census lists Richard Jerome (senior) as having been born in New York, while his place of birth is listed as Connecticut in the 1860 census. His children are listed as being born in New York in some years and Connecticut in others. Perhaps the most curious discrepancy is that Robert Clark aged only three years from the 1860 to 1880 censuses. Despite the obvious errors that reside in the census data, it is clear those documents provide excellent insights into who was present on the island and what relative roles they filled.

The 1880 agricultural census (U.S. Government, 1880b) provides additional insights into the farming operations on Plum Island shortly before those operations ceased. Richard M. Jerome is shown as renting his farm for shares in that year, as the property was apparently still in the hands of the Jerome heirs. He controlled a total of 590 acres, of which 70 acres were fallow or in grass, 500 acres was in permanent meadows or orchards, and 20 acres were in woodland and forest. The property, including the land and improvements, was valued at \$11,000. His farm had \$150 in farm equipment and \$1,500 worth of livestock. He spent \$20 in fence and building repairs in 1879, and produced an estimate \$1,000 in farm products. His labor cost in 1878 was \$500, and he hired 64 weeks of labor, excluding housework, in 1879.

Richard Jerome produced 50 tons of hay from 60 acres mown in 1879. His livestock as of June 1, 1880, included two horses, four working oxen, 12 milk cows, and 28 other cows. Jerome produced 400 lbs of butter in 1879. His cattle included 11 calves dropped during the year, nine cattle purchased, and nine slaughtered. His total number of sheep was not given, but 70 lambs were dropped during the year, 66 sheep or lambs were sold living, 12 were slaughtered, and 20 died of disease. Three hundred fleeces were produced in 1879, which amounted to 900 lbs of wool. Additional livestock present included two swine and 60 poultry. The poultry produced 200 eggs in 1879.

Crops grown by Richard Jerome included 6 acres of corn that produced 300 bushels, four acres of oats with 160 bushels, and a half acre of potatoes with a production of 60 bushels.

Richard Jerome's farm appears to have been a viable operation in 1880, and is probably a good reflection of the enterprise his father had maintained there for much of the nineteenth century. Richard Jerome may have been a part-time resident on the island in 1880, as he lived there without his family in that year.

An image of what appears to have been the Jerome home has survived. That image is on file at Plum Island, and contains the notation "Farm House Plum Island Fort Terry N.Y." (Figure 5). The image shows the side and part of the front of the building. The house is a Dutch Colonial style structure with a gambrel roof and dormers, and is a style of building that was common in New England from the seventeenth through the eighteenth centuries. The building has a shake roof with two shed additions on the back. The roof of an outbuilding is visible in the image to the left of the house, as is a white picket fence. A rough picket-style fence encloses that part of the front porch that is visible. The Jerome home was quite large, as it needed to be given the size of the Jerome family. Based on the architectural style of the structure, it appear that that house was old enough to have been an early building taken over by Jerome when he acquired the

property. It is most likely, given what is known about the island's history, that it had been the Gardiner House and had been built in the eighteenth century or earlier.



Figure 5. Photograph of the Presumed Jerome Residence

An 1883 map of Plum Island prepared by the U.S. Coast and Geodetic Survey (Figure 6) shows a third location for the Jerome house (U.S. Coast Survey, 1883). The map reflects an actual survey of the island and, is probably the most accurate of the three images (i.e., Figures 3, 4, and 6). The 1883 map shows the Jerome house located in what appears to be the western part of the eastern half of the island, which is where his house would be expected to have been located had it been previously occupied by Gardiner. It also shows his house in the vicinity of the later “Jerome Reservoir” depicted on a plan of Fort Terry. The “Jerome Reservoir” location was visited during the archaeological reconnaissance of the island and is on the top of a hill that places it on the highest point on the island. The reservoir is a very large concrete tank that is largely buried in the top of the hill, adjacent to the existing water tower. The hilltop contains a large, relatively level area large enough to have conceivably contained a residence. No surface artifacts were noted on the hill top, but much of it is heavily vegetated with limited ground surface visibility. The “Jerome Reservoir” area is likely the location of the Jerome home, and that location is shown on Figure 2. The locations on the 1858 and 1873 maps are assumed to be in error, and are not reflected on Figure 2. The two earlier map locations for the Jerome residence that are assumed to be in error fall within the prehistoric high probability area, and the actual Jerome residence would likely be found upon archaeological survey should either of those earlier maps prove to be correct.

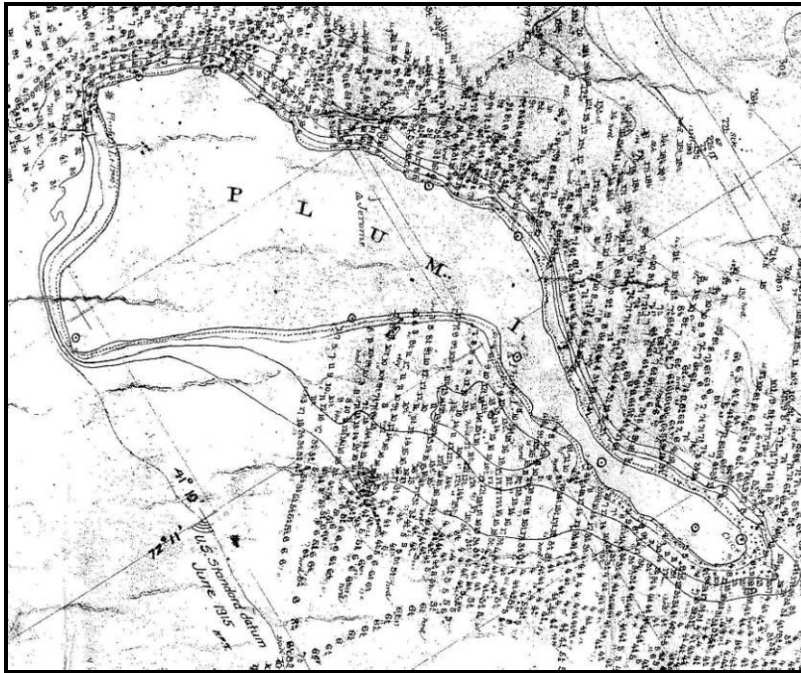


Figure 6. 1883 U.S. Coast and Geodetic Survey Map of Plum Island.

Robert E. Clark owned and operated the other farming enterprise on Plum Island in 1880. His total land holding was 120 acres. The Clark and Jerome farms totaled 710 acres, which left about 127 acres (excluding the light station property) unaccounted for in their farming operations. That acreage was probably in other ownership in 1880 and was not being used for farming.

Clark's farm included 35 acres that were tilled or fallow in grass and 85 acres of permanent pasture or orchards. The total value of his land and improvements was \$1,500. His farm equipment was worth \$75 in 1880, and he owned \$535 worth of livestock. He spent no money on repairs to his property in 1879. His labor cost, excluding housework but including the cost of board, was \$360 in 1879, for 48 weeks of labor. He produced an estimated \$550 in farm products in 1879. He produced 15 tons of hay from 25 acres that were mown. This compares poorly to the 50 tons of hay produced by Richard Jerome on 60 acres that were mown during the same period, and probably reflects the relative productivity of the two farms. Clark's livestock as of June 1, 1880, included one horse, two working oxen, four milk cows, and five other cows. Clark produced 50 lbs of butter from his milk cows, as compared to the 400 lbs produced by Jerome from his 12 milk cows. The cattle owned by Clark included one calf dropped in 1879, three cattle purchased, and two slaughtered. Clark's sheep included 26 lambs dropped in 1879, of which 13 were sold living, three were slaughtered, and three died of disease. His sheep produced 26 fleeces that amounted to 125 lbs of wool. Other livestock included 15 swine and 45 poultry. Clark's poultry produced 100 eggs in 1879. Crops grown by Clark included six acres of corn that produced 100 bushels, five acres of oats with 200 bushels, and four and a half acres of Irish potatoes with 500 bushels.

Robert E. Clark's farming operation was both smaller and less productive than the Jerome farm. The farm occupied by Clark apparently changed ownership several times during the nineteenth century; this may have been due to the somewhat marginal nature of the land.

Robert Clark and his family may have continued to live on the island (and perhaps in the Jerome home) after the purchases by Bedell in 1883 and Hewett in 1890. No Clark house was shown on the 1883 map. A death notice in the *Long Island Traveler* on October 12, 1894, noted the passing of William H. Clark, the 10 year old son of Robert E. and Sarah (actually Susan) Ann Clark of Plum Island (Long Island Traveler, 1984).

A cemetery that contains an unknown number of unmarked graves has been identified on the island (see Figure 2). The reported cemetery, located near the existing sewage treatment facility, was completely overgrown with vegetation at the time of the archaeological reconnaissance. Essex described the cemetery as "midway between the north and south shores, on the western end of the island, is a solitary graveyard where many unknowns sleep" (Essex, 1908). Essex reported that no one was buried in the cemetery that lived on the island "in our day."

The single headstone known to be present on the island (see Figure 2 and Figure 7) is marked with the inscription "*Col. Thomas Gardiner 1724-1786 Son of John Gardiner of Narragansett*". The stone is made of grey granite, and appears to be relatively new. The marker is located in a small, natural bowl-shaped depression on the south side of the moraine immediately west of the current laboratory buildings. The location of the headstone was visited during the archaeological reconnaissance, when no evidence of additional graves was observed. Although it is unlikely that a cemetery is present at or around the headstone, it is located in a high probability area for prehistoric resources.



Figure 7. Thomas Gardiner Marker.

The light station on Plum Island is listed on the National Register of Historic Places. An article titled "Plum Island 50 Years Ago" by H.C.A. Essex that was published in the *Traveler Watchman* on September 3, 1908, provided a description of the first light station on the site. The article

indicated that the light station in 1847 consisted of a white tower fifty feet from the keeper's house that had a "burnished copper reflector" and burned sperm oil (whale oil). The keeper's house was described as a "low, one-story, steep roofed stone building, with a wooden ell used as a kitchen." The article further indicated that that building was demolished after construction of the new light station. The new light station was built in 1869. Postcards of the new light station taken in 1879 (East End Lighthouses, 2010) show a stone building with a frame ell on the property that may have been the original residence. One of the postcards is depicted in Figure 8.



Figure 8. 1879 Postcard of the Plum Island Light Station (East End Lighthouses, 2010).

The archaeological reconnaissance conducted on Plum Island indicated that half or more of the original light station property has eroded into Plum Gut. Despite that loss, archaeological deposits from at least some early buildings, including the one shown to the right of the light station in Figure 8, should have survived. The surviving archaeological deposits associated with the light station need to be taken into account during any future activities on the property.

Additional historic activity on the island while it was in private ownership included use of the island harbor and adjacent areas for recreation. A two-story private clubhouse was apparently built on a "bluff overlooking the boat harbor" by members of the Smokepipe Club of Hartford, Connecticut in the late nineteenth century (Essex, 1908). This was done with the permission of Richard Jerome, suggesting that the clubhouse was built prior to 1883. The Smokepipe Club camped on the island for recreation for "two weeks at a time". Abram Hewett apparently planned to build a resort on Plum Island when he purchased it in 1890, but that plan never

materialized (Essex, 1908). The site of the clubhouse has probably been obliterated by construction related to the harbor.

The historic resources prior to the Fort Terry era consist mainly of farmsteads that date from the end of the seventeenth to the end of the nineteenth century. The locations of the resources that predate the nineteenth century are poorly understood, although it is reasonable to assume that at least some of the nineteenth century farmsteads were built on the locations of earlier farmsteads. Nineteenth century maps provide insights into where the farmsteads of that period were located. Three different maps place the Jerome farmstead in three different places, but it can be assumed that the latest map, dating from 1883, is the most accurate of the three. Two other farmsteads are assumed from the historical record to have been present on the island in the nineteenth century. Those farmsteads were associated with the eastern division of the island, while Jerome owned the western two-thirds of the island. Locations of the Mallory and Clark homesteads are available from images that date from 1858 and 1873. According to available mapping, those two farmsteads were located fairly close together, and indeed the two locations may in truth have been a single farmstead location. One of the locations was a level area on a high hill overlooking the main cantonment/camp area of the later Fort Terry. A well defined road to that hilltop was noted during the archaeological reconnaissance, and none of the available Fort Terry maps indicate that area was used for construction during the Fort Terry period. That location may contain both the earlier Mallory and later Clark farmsteads, but the hilltop was covered with dense vegetation during the reconnaissance and no artifacts were observed in that area.

The locations of the earlier and later light stations are well known, and the later light station is still standing. There are almost certainly archaeological resources associated with both light stations preserved in the ground around the standing light station.

Figure 2 includes the known locations associated with the pre-Fort Terry historic use of Plum Island. It is likely that additional resources are present that were not detected during this project research, but those locations cannot be predicted with available information.

3.2 Fort Terry

Part of the island was purchased for the construction of Fort Terry in 1897; the remainder was purchased by the U.S. Government in 1901. The architecture associated with Fort Terry has been studied, and most of the surviving complex has been determined not to be eligible for listing on the NRHP (Hefner, 1998; FPM Group, 2003). The archaeological resources associated with Fort Terry have not been studied, however, and it is likely that archaeological deposits associated with the fort have survived and would be eligible for the NRHP under criterion d (for their potential to yield significant historical information about the fort).

Areas associated with Fort Terry that would require archaeological surveys include batteries built between 1898 and 1944, submarine mining facilities built between 1898 and World War I, fire control structures built between 1898 and 1944, searchlight shelters, the 1912 power plant,

temporary and permanent housing erected with the base, and the buildings that made up the original cantonment/post, all of which are in areas included as high probability areas in Figure 2.

The 1926 *Post and Reservation Map Fort Terry, New York* provides excellent details on the structures that were present at that time. That map was used as the base map for the Fort Terry predictive model, and represents what probably was the maximum building plan for the facility. All structures or structural areas shown on the 1926 map are located within areas denoted in Figure 2 as “Fort Terry Era High Probability Sites.” (*Post and Reservation Map Fort Terry, New York, 1926*)

Photographs of some of the initial structures erected at Fort Terry were found in files at Plum Island during the recent reconnaissance. A selection of those photographs is illustrated below as Figures 9-12. These images were probably taken in 1898. They are interesting in terms of not only showing the buildings and construction techniques, but also for the insights provided in to the terrain on the island during the initial building stage of the fort. A full sized copy of the 1926 map was also found, and that could be used as the baseline map for future Phase I studies of resources related to Fort Terry.



Figure 9. Buildings 9, 6, 7, 5, and 3 under Construction



Figure 10. The Captain's Quarters at Fort Terry



Figure 11. The "Italian Colony" at Fort Terry

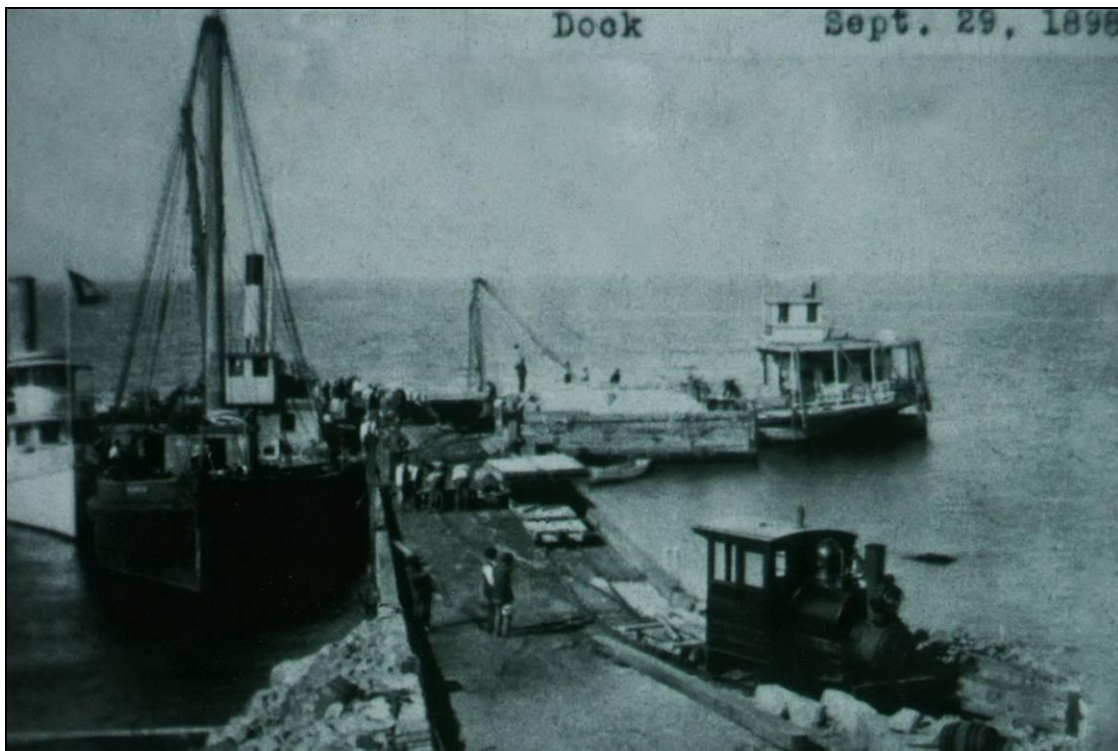


Figure 12. The Dock at Fort Terry, September 29, 1898

The cutoff date for the study of archaeological resources on Plum Island is proposed to be 1948, when Fort Terry was placed on inactive status. Resources occurring after 1948 are not to be considered archaeologically significant. This excludes resources associated with the Plum Island Animal Disease Center, which is still in operation on the island.

The 24-acre area that was previously surveyed is not located in a high probability area for historic resources (see Figure 2). That survey found isolated artifacts that may date to the Fort Terry occupation, but no discrete archaeological sites were located. The lack of substantive historic resources in that area is consistent with what is known of the use of Plum Island during the historic period.

4.0 PREDICTIVE MODEL SUMMARY

The purpose of the Plum Island predictive model is to determine which areas of the island could require more intensive study during future archaeological surveys, and to make those surveys more efficient and cost-effective. The predictive model identifies high and low probability areas with different criteria used for prehistoric and historic resources. The probability areas for each type of resource were determined based on the results of a literature and records search, and on a brief reconnaissance conducted on the island by the Principal Investigator. The only archaeological survey conducted on the island covered a 24-acre tract to the west of the existing laboratory/office complex. The results of that survey were considered during preparation of the model, but the area that was covered was too small to significantly inform the current study.

It is predicted that prehistoric resources on Plum Island will be most closely associated with areas that contain(ed) potable surface water and that were accessible to the Sound and/or Plum Gut. The areas with the greatest concentration of prehistoric resources are likely located within 200 meters of the Sound or Plum Gut, and as such these areas are targeted as having high probability. Areas within 200 meters of sources of potable surface water such as springs, seeps, or ponds are also defined as high probability areas. Locations within these areas that can be defined as wetlands, floodplains composed of poorly consolidated sands, heavily disturbed, or too steep to have been used for settlement can be excluded.

The high probability areas for historic resources on Plum Island (see Figure 2) are much more extensive and complex than those for prehistoric periods. Those include:

- the 3-acre light station complex on the west end of Plum Island;
- the harbor area on the west end of Plum Island;
- the bluff edge overlooking the harbor on the west end to a distance of 100 meters inland from the edge of the bluff;
- the known cemetery and the area within 200 meters of the known cemetery;
- the Jerome, Mallory, and Clark farmsteads as shown on historic maps; and
- the resources associated with Ft Terry, including all resources shown on the 1926 map and other resources within the development areas at Fort Terry that predate 1948.

Areas within the defined historic high probability areas have been taken from historic maps (see Figure 2), and reflect the actual locations of resources as they can best be determined from those maps. There are some inconsistencies in the locations given for historic resources prior to Fort Terry because of inaccuracies built into the available maps. The locations for Fort Terry resources are expected to be fairly precise, however, as they are based on the 1926 map that was drawn from actual survey data. It is expected that high probability areas established for historic resources will contain disturbed areas that can be written off as the archaeological surveys proceed, but those determinations are best made at the time of the actual surveys.

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